UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,680	03/15/2002	Frank W. Rohlfing	GB 010043	4935

24737 7590 11/12/2004

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
SCHILLINGER, LAURA M	
ART UNIT	**PAPER NUMBER**
2813	

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/099,680
Filing Date: March 15, 2002
Appellant(s): ROHLFING, FRANK W.

William S. Francos
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 8/1/03.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because Applicant states that claims 4 and 5 stand alone. The Applicant failed to provide arguments addressing these claims separately from claim 1 as required by 37 CFR 1.192(c)(8). Therefore the Examiner asserts that claims 1-11 stand and fall together.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

5256585	Bae	10-1993

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Bae ('585).

In reference to claim 1, Bae teaches a method comprising:

a) forming a semiconductor film over an insulating substrate (Fig.3A (50 and 53));

b) depositing a first mask over the semiconductor film and forming holes therethrough (Fig.3B (100 and 54a));

c) patterning the mask in a first pattern (Fig.3B (100 and 54a)- note that layer 100 is referred to as a photoresist pattern and such patterning occurs due to patterned light exposure in formation of the resist);

d) depositing a second mask layer over the first (Fig. 3B (55a));

e) patterning the second mask which lies within the area of the first (Fig.3B (55a));

f) implanting using the mask to form source/drain regions and a channel and a field-relief region having lower doping concentration than the drain region between the channel and drain (Fig.3C and Col.4, lines: 30-45).

In reference to claim 2, Bae teaches wherein step b comprises providing an array of spaced raised features over the semiconductor film, depositing a first masking layer thereover and removing the raised features when patterning the mask (Fig.3A-3B).

In reference to claim 3, Bae teaches wherein step b comprises forming an etchant mask over the first masking layer(Col.4, lines: 20-25).

In reference to claim 4, Bae teaches wherein step c is carried out before etching holes in the first masking layer (Fig.3B).

In reference to claim 5, Bae teaches wherein etching holes in the first mask occurs after step e so that holes are formed in the first mask (Fig.3B).

In reference to claim 6, Bae teaches wherein step d is carried out before step c and the method further includes step h after step d and before step c of patterning the second mask to form a masks in the first pattern for the patterning of the first masking layer in step c (Fig.3B and 3C – see 112 rejection and Fig.3E (58a)).

In reference to claim 7, Bae teaches wherein step h comprises defining the second pattern in the second masking layer and forming sidewall spacers adjacent to the second masking layer to define a first pattern (Fig.3E (58a)).

In reference to claim 8, Bae teaches wherein step e comprises defining the second pattern in a third masking layer over the second layer oxidizing the exposed portions of the second masking layer and removing the oxidized portions of the second layer to define a second pattern in the second masking layer (Fig. 3D (58)-3E(58a)).

In reference to claim 9, Bae teaches wherein the first masking layer forms a gate insulating layer and the second masking layer is a gate electrode (Fig.3C(54a and 55a)).

In reference to claim 10, Bae teaches wherein the first masking layer forms a gate electrode layer and the method includes a step of depositing a gate insulator layer after step a and before step b (Fig.3C (54a and 55a)).

In reference to claim 11, Bae teaches the device as a result of claim 1 (linking claim-automatically rejected with claim 1.)

(11) Response to Argument

The arguments state that the Bae reference fails to teach forming a plurality of holes in the implant mask. Both the Examiner and the Applicant agree that layer 54a (first mask) and layer 55a (second mask) constitute the implant mask. It should be noted that layers 54a and 55a constitute a gate stack which is used to mask the channel region during subsequent implantation. Applicant argues that there are no holes formed in layer 54a and 55a as required by the claim language. Applicant further recites the definition of the term "holes" from the Webster's New

World Dictionary. The Examiner interpreted the term "hole" under its broadest reasonable interpretation in light of the specification and determined that upon the semiconductor substrate, it is understood that there are a plurality of gate structures 54a and 55a formed on the substrate and they are separated by an etching of holes in layer 54a and 55a. This removal step is consistent with the definition of the term "hole" referred to in the dictionary and relied upon by the Applicant. Therefore, the Examiner does not find the argument persuasive that the Bae reference does not teach forming a plurality of holes as stated by the arguments.

Applicant argues that that the Bae reference fails to anticipate his claim language because his claim recites one ion implantation step and the Bae reference teaches two ion implantations. The Examiner does not find this argument persuasive because Applicant has not claimed "only one ion implantation"; moreover, Applicant has chosen the term "comprising" as the transitional element of the preamble. It is clearly established that the transitional term "comprising" which is synonymous with "including", "containing", or "characterized by" is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See e.g. Genetech v. Chiron Corp., 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed.Cir., 1997). "Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim. Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986). Therefore Applicant's claim language as recited may include additional method steps and the Bae reference still anticipates the claim language despite the existence of an extra ion implantation step teaching.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Laura Schillinger
November 8, 2004

Conferees
***

Corporate Patent Counsel
U.S. Philips Corporation
580 White Plains Road
Tarrytown, NY 10591

BRIAN SARCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800